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PRELIMINARY GROUND INVESTIGATION REPORT

UPON

RESIDENTIAL DEVELOPMENT PLOT 1

HIGHSTOCK LANE

GEDNEY HILL PE12 0QG

PROJECT No: 16721

DOCUMENT REF: 16721-GI-01



Mr K.Watts

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1. INTRODUCTION

Acting upon instruction from Mr K. Watts, we visited site on 9th March 2021 with a view to determining the basic characteristics of the soils strata.

Hand Auger boreholes and in-situ testing took place, and our comments are based upon a visual Inspection only of the disturbed samples obtained.

We would suggest the groundwater conditions may vary seasonally and that water levels as recorded at the time of exploration should not necessarily be taken as being constant as they may be subject to fluctuations.

The opinions and comments expressed in this report are based upon ground conditions encountered in the borehole sunk at the time of our visit.

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2. LOCATION AND BRIEF DESCRIPTION OF THE SITE

2.1 Site location

Situated on the South side of Highstock Lane, Gedney Hill appropriate National Grid reference TF340110. A site location plan is contained in APPENDIX A.

2.2 Site History description

Desktop study of historical maps has been undertaken and found that the site was historically an agricultural plot and all maps show a drain running along the East side of the plot.
An extract of the 1888 Ordnance survey is contained within APPENDIX B.

2.3 Site description

The site currently stands as an apparently un occupied paddock. The investigation is limited to the area intended for the residential development as shown on the location plan contained within APPENDIX A.

The North of the site is bordered by the highway, Highstock Lane.

The Southern Boundary is to adjacent agricultural land.

The East of the site is bounded by a field access track and West of the plot is bordered by an adjacent building plot.

No significant trees or vegetation was present on site at the time of investigation.

At the time of our visit the weather was dry and clear, however some precipitation was experienced in the days running up.

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2.4 Geological description

Desktop study of the area has been undertaken using the British Geological Society Maps.

The maps indicate the site to be underlain by superficial tidal flat deposits of sands and silts over the Oxford clay formation (Mudstone).

An existing borehole record to the West of the site indicates Tidal deposits of firm silty clay immediately below the surface underlain by softer clays at depth. This information is based upon publicly available records from the British Geological Society.

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3. SITE WORK

Two 100mm diameter Hand Auger boreholes took place in the location shown on the location plan contained within APPENDIX A.

A visual inspection of the disturbed samples took place, and in-situ Mackintosh probe tests were performed. A description of the strata and test results are shown on sheets No.d 16721/BH01, BH02. The exploration logs are contained in APPENDIX C.

The soil demonstrated no identifying odours or markers for known contamination and with the historical investigation indicating solely agricultural use, no samples were submitted for laboratory chemical analysis testing.

An infiltration rate test was undertaken in accordance with procedures described in BRE digest 365.

A photographic record is contained within APPENDIX D.

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4.0 GROUND CONDITIONS

The sequence of the strata encountered during the investigation generally confirms the anticipated geology as interpreted from experience and the geological maps.

The strata encountered in all explorations were very similar, and typical of that to be found in the fenland area.

Once the dry topsoil material was penetrated the strata became a mid-dense slightly silty sand which extended to depths of 3m until a wet grey sandy silt was encountered.

An infiltration test was undertaken to the rear of the plot, the water drained well through the granular strata. The test results and calculation are contained within APPENDIX E, the calculated infiltration rate is 1.07×10^{-5} m/s.

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5.0 CONCLUSIONS & RECCOMENDATIONS

The nature of the ground conditions on site are suitable for traditional shallow spread foundations, however due care and attention should be taken to ensure that the less dense wet material underlying is not overstressed.

It is understood that the proposed property is to take the form of a domestic bungalow.

The infiltration test drained well, and the site is well suited to the use of soakaway surface water drainage and a drainage field outfall from a treatment plant for foul water. The calculated infiltration rate is contained with the results in APPENDIX E.

The ground conditions encountered at 0.75m BGL are suitable for shallow strip footings a maximum of 1.0m width exerting a maximum bearing pressure of 70kN/m². Under these conditions we would anticipate that settlements should be within a generally acceptable range.

For and on behalf of **SIDEBOTTOM RICHARDSON CHENG LTD**

J. Lawrence **15th March 2021**

(Checked) J. A. Richardson

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APPENDIX A

Location Plan

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APPENDIX B

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1888 Ordnance survey county series map

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APPENDIX C

Borehole Logs

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Sheet No.	Rev
16721/BH01	-

Status: FOR INFORMATION

Date	Mar.21	Drawn	JA	Checked	JL
Scale	NTS	Design	-	File Name	16721-BH01

Location: Ground Investigation Report At, Plot 1, Highstock Lane, Gedney Hill

Carried Out For: K.Watts

Date Undertaken: 09-03-21

Logged By: JL

Equipment & Methods
Hand Auger
Mackintosh Probe

Site Coordinates: TF 340 110

Ground Level:

Borehole No. 1

Description	Reduced Level	Legend	Depth (Thick)	Samples: Depth	Samples: Sample Reference	Samples: Sample Type	Samples: Sample No.	Test Required	M.P.T. Blow Count (Depth)
Topsoil.			650mm (650mm)						
Dry Fine Orangey Brown Sandy Silt.			2400mm (1750mm)						0.9m Below G.L. 195 Blows For 300mm Movement
Fine Orangey Brown Sandy Silt.			2900mm (500mm)						
Light Grey Silty Sand.			3100mm (200mm)						

Remarks
Standing Water @ 2.6m Below GL After 1.5 Hours.

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Sheet No. 16721/BH02						Rev -	
Status FOR INFORMATION							
Date	Mar.21	Drawn	JA	Checked	JL		
Scale	NTS	Design	-	File Name	16721-BH02		

Location: Ground Investigation Report At, Plot 1, Highstock Lane, Gedney Hill

Carried Out For: K.Watts

Date Undertaken: 09-03-21

Logged By: JL

Equipment & Methods
Hand Auger
Mackintosh Probe

Site Coordinates: TF 340 110

Ground Level:

Borehole No. 2

Description	Reduced Level	Legend	Depth (Thick)	Samples: Depth	Samples: Sample Reference	Samples: Sample Type	Samples: Sample No.	Test Required	M.P.T. Blow Count (Depth)
Topsoil.			650mm (650mm)						
Dry Fine Orangey Brown Sandy Silt.			2400mm (1750mm)						
Moist Orangey Brown Sandy Silt Becoming Wetter With Depth.			3100mm (700mm)						
Light Grey Silty Sand.			3400mm (300mm)						

Remarks
Standing Water @ 2.7m Below GL After 1 Hour.

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APPENDIX D

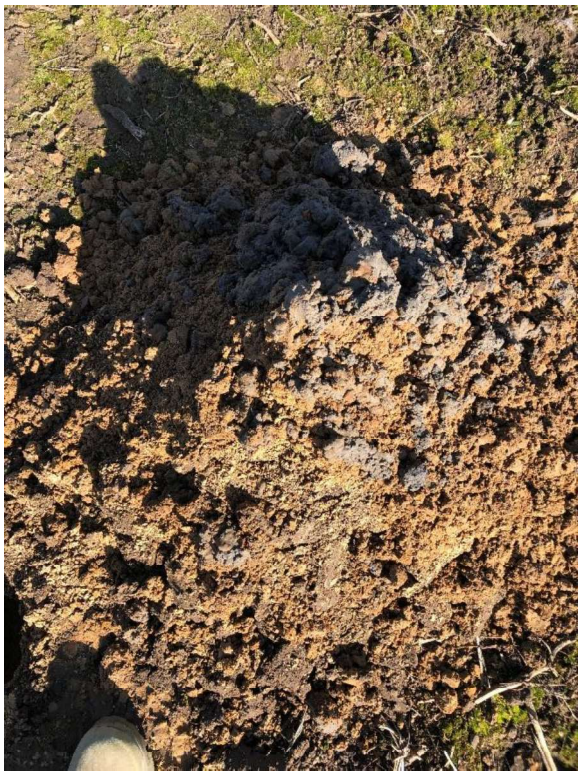
Photographic Record

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APPENDIX E

Infiltration Test Results

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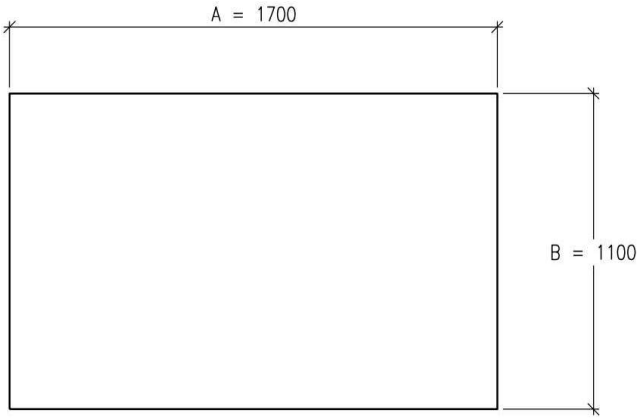
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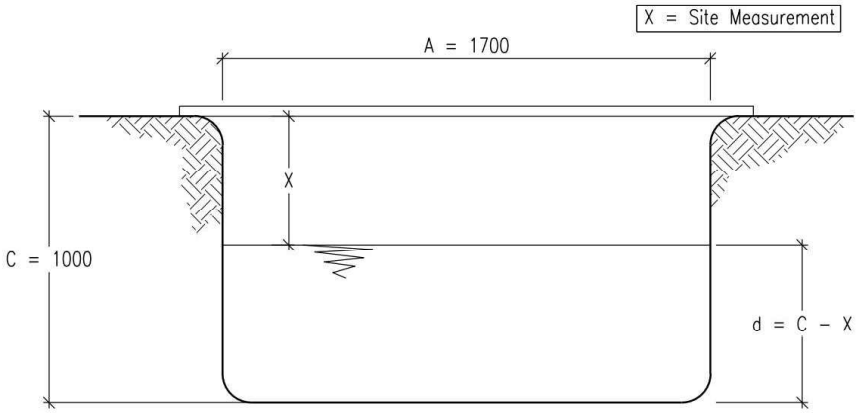
Sheet No. 16721/SA01					Rev -
Status FOR INFORMATION					
Date	Mar.21	Drawn	JA	Checked	JL
Scale	1:20	Design	-	File Name	16721-SA01

Project: Proposed Dwelling At Plot 1, Highstock Lane, Gedney Hill, Lincs, PE12 0QG

Title: Infiltration Soak Away Sketch



Plan On SA01



Section Through SA01

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Soak-Away Test SA 01

Job Reference Proposed Dwelling At Plot 1 Highstock Lane, Gedney Hill

SA01	
TIME (Mins)	DEPTH mm (d)
0	480
15	440
30	410
45	390
60	370
90	340
120	310
150	300
210	250
270	215
330	150

Job No. 16721

Date 09/03/2021

Trial Dimensions

A =	1.7	m
B =	1.1	m
C =	1	m
C.S.Area of SA01 =	1.87	m^2
Total Volume =	0.617	m^3
75% Volume =	0.463	m^3
25%Volume =	0.154	m^3

Time Taken From 75% Volume to 25% Volume

172 Mins

Effective Depth From 75% Volume to 25% Volume

0.165 m

50% Effective Internal Surface Area Including Base area

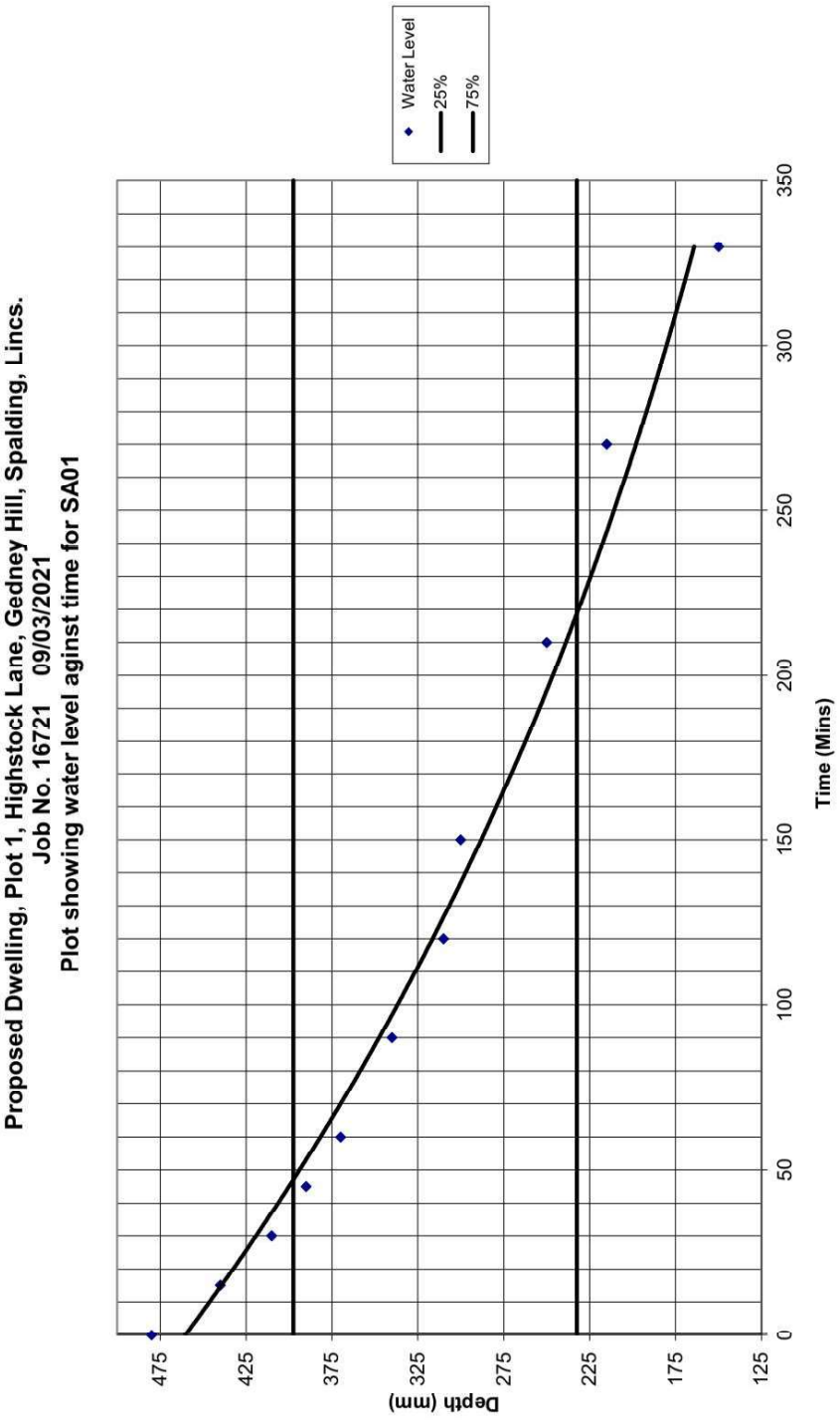
2.794 m^2

Soil Infiltration rate, f

1.07009E-05 m/s

1.07 x 10^ - 2 mm/s

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Sibley, Sally

From: G R MERCHANT LTD <grmerchant.arch.cons@gmail.com>
Sent: 21 May 2021 15:54
To: _planningadvice
Subject: H07-0411-21 (Mr K Mitchell)
Attachments: 16721-GI-01.pdf

This message originated from outside your organization

Dear Planning,

Please can you add the attached document to this application.

Regards
Hannah

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